

## REMARKS

Claims 1 to 7, 9 to 10 13 to 36 and 39 to 42 are pending.

The claims are amended to the selected species. Hence all claims should now be examined.

Claims 1-3, 5-17, and 23-34 were rejected under 35 U.S.C. §112, second paragraph.

35 U.S.C. §112, second paragraph, provides:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

At page 3, paragraphs 8 and 10, the Office Action states:

Claims 1, line 6; 13-15, line 2; and 16, 17, and 28, line 1, these claims have the relative term of "better" or "best" which causes the claims to be vague and indefinite. The relative terms are unclear as to what criteria are being used to determine that a particular data set is better or best from the other data sets.

....

Specific to claim 8, step (D), claim 11, (iii), claim 12, line 3, the term "outside" [now incorporated into claim 1] causes the claim to be vague and indefinite. In examining according to step (D) and identifying according to step (iii), the step is unclear as to what criteria are being used to determine that specific identified effects are outside the standard deviation (greater or less than).

Office Action page 3.

The PTO is incorrect that the claim terms are "unclear as to what criteria are being used to determine... better or best [or 'outside']. First, the MPEP and cited case law explicitly approve relative terms. See 2173.05(b) entitled "Relative Terminology." Second, whether claims are definite under 35 U.S.C. §112, second paragraph, is determined in light of the specification. The claims read in light of the specification need only apprise those skilled in the art of the scope of the invention. *Hybritech v.*

*Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1387, 231 USPQ 81, 94, 95 (Fed. Cir. 1986), cert. denied 480 US 947 (1987). The specification provides numerous examples of determining “best” and “better” catalysts based on TON (catalyst turnover number) and numerous examples and descriptions of “outside a standard deviation,” (for example, see FIG. 4 and paragraphs [0026] and [0027]). A quick search of the PTO patent database reveals 4670 patents that have used the claim term “best,” 3613 patents that have used the claim term “better” and 18 patents that have used the term “outside standard deviation” in the specification. From the disclosure of the specification and well-known meanings of the terms, those skilled in the art are apprised of the claim scope. See *Seattle Box Co., v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984) and MPEP 2173.05(b). This basis of the 35 U.S.C. §112, second paragraph rejection should be withdrawn.

The Office page 3, paragraph 9 states:

Specific to claim 1, line 7, the phrase "factor levels" is set forth as being selected from the analysis of the last 2 lines of claim 1. However, there is not a step for defining, measuring or effecting the factor levels prior to the step where the factor levels are being selected. Therefore, there is lack of antecedent basis for the limitation of defining the factors for example before the factor levels are selected for analysis. How can one select something that is not provided previously?

The MPEP 2173.05(e) entitled “Lack of Antecedent Basis” provides that “[a] lack of clarity could arise where a claim refers to “said lever” or “the lever,” where the claim contains no earlier recitation or limitation of a lever and where it would be unclear as to what element the limitation was making reference.” However, claim 1 does not refer to “said” or “the” “factor levels.” The term “factor levels” in claim 1 is a newly introduced term. There is no possibility of “unclear” relationship or reference to a previous term. This basis of the 35 U.S.C. §112, second paragraph rejection should be withdrawn.

Claim 1 has been amended to provide antecedent basis for “the  $n \times 1$  matrix  $y$ .” This amendment should overcome the paragraph 11 basis of the 35 U.S.C. §112, second paragraph rejection

At pages 4, paragraphs 12 and 13, the Office Action states:

Specific to claim 10, (ii), the variables X' and X are vague and indefinite. The said variables in step (i), claim 10, represent two different matrices. However, in another interpretation, the said variables represent numerical values to which the post multiplying step is performed. Is the post multiplying step performed using the matrices X and X' or the numerical values representing by the variables X and X'? ....

Specific to claim 10, (iii), the variable y is vague and indefinite. The variable y in claim 8, step (A) represents a specific matrix. However, the said variable represents a numerical value to which the post multiplying step is performed to form the results. Is the post-multiplying step performed using the matrix y or the numerical values representing by the variable y?

The PTO argument is incorrect. The X', X and y notations are well known and conventional matrix algebra notations. See for example, <http://www.itl.nist.gov/div898/handbook/pmc/section5/pmc53.htm>. The X', X and y notations are defined and exemplified in the specification. For example, see the specification paragraphs [0020] to [0024]. The X', X and y notations are defined in the claims themselves. See claim 1 for example. The meanings of the notations are consistent throughout the specification and claims. One skilled in the art is apprised of the scope of the claims in this respect. *See Seattle Box Co., v. Industrial Crating & Packing, Inc., supra*. This basis of the 35 U.S.C. §112, second paragraph rejection should be withdrawn.

The claims distinctly claim the invention. The rejection of claims 1-3, 5-17, and 23- under 35 U.S.C. 112, second paragraph should be withdrawn.

Claim 16 was rejected under 35 U.S.C. 112, first paragraph.

The Office Action pages 4 to 5, paragraph 14 states:

... the specification, while being enabling for a method for defining leads from a complex chemical space (page 11-18), does not reasonably provide enablement for defining leads for a commercial process. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

35 U.S.C. §112, first paragraph states that “the specification shall contain a

written description of the invention, and of the manner and process of making and using it ... to enable any person skilled in the art. to make and use the same...." *In re Marzocchi*, 439 F.2d 220, 169 USPQ 167 (CCPA 1971) states:

[A] specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as in compliance with the enabling requirement of the first paragraph of § 112 *unless* there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. (Emphasis in original.)

*In re Marzocchi*, 439 F.2d at page 223, 169 USPQ at page 169. *In re Brana*, 34 USPQ 2d 1436 (Fed. Cir. 1995) quotes *In re Marzocchi* with approval at page 1441.

The Office Action, page 5, paragraph 16 states:

It is acknowledged that applicant provide sufficient disclosure for defining leads from a complex chemical space (page 11-18). Further, the instant "invention provides a particularly well-suited experimental methodology to investigate multiple and complex interactions of a catalyzed chemical reaction" (page 3, lines 13-20). However, the instant application does not provide guidance or working examples for translating an experimental methodology to a generic commercial process. It is well established that experimental methods require many iterations of trial and errors processes to refine an experimental process to a commercial process. Therefore, [t]he instant specification does not provide sufficient guidance or working examples for one skilled in the art to predictably use the claimed invention for a commercial process.

This argument overlooks the claim language and the specification disclosure. Claim 16 does not claim a commercial process; claim 16 claims a process that identifies "best set of factor levels [that define] leads for a commercial process" (claim 16, emphasis added). The specification teaches this process throughout the specification, from page 3, paragraph [0010] to the specification end, including the drawings. The 35 U.S.C. 112, first paragraph rejection of claim 16 should be withdrawn.

Claims 1 to 3, 5 to 11, 13 to 17, 23 to 28, and 34 were rejected under 35 U.S.C. 103(a) over Agrafiotis et al. and Grate et al. and claims 1 to 3, 5 to 11, 13 to 17, and 23 to

34 were rejected under 35 U.S.C. 103(a) over Agrafiotis et al., Grate et al. and Chaudhari et al. Claim 12 was not rejected under 35 U.S.C. 103(a). Claim 1 is amended to incorporate the limitations of claim 12 and the limitations of intervening claims 11 and 8. Claim 1 should be allowed. Claims 2 to 7, 9 to 10 13 to 34 depend from claim 1. Claims 2 to 7, 9 to 10 13 to 34 should be allowed. The rejections of claims 1 to 3, 5 to 11, 13 to 17, 23 to 28, and 34 under 35 U.S.C. 103(a) over Agrafiotis et al. and Grate et al. and claims 1 to 3, 5 to 11, 13 to 17, and 23 to 34 under 35 U.S.C. 103(a) over Agrafiotis et al., Grate et al. and Chaudhari et al. should be withdrawn.

Applicant vigorously traverses the rejection of claims 1 to 3, 5 to 11, 13 to 17, 23 to 28, and 34 under 35 U.S.C. 103(a) over Agrafiotis et al. and Grate et al. and claims 1 to 3, 5 to 11, 13 to 17, and 23 to 34 under 35 U.S.C. 103(a) over Agrafiotis et al., Grate et al. and Chaudhari et al. The rejection is based on improper combinations of references without the motivation to combine required by *In re Lee*, 277 F.3d 1338, 61 USPQ 2d 1430 (Fed. Cir. 2002). Additionally, even if improperly combined, the references do not make out a *prima facie* case of obviousness. *See In re Deuel*, 34 USPQ2d 1210 (Fed. Cir. 1995). However, Applicant has amended the claims including canceling claims, to gain a quick allowance in view of the fact that claim 12 was not rejected over the art. However, if the current amendments and 35 U.S.C. §112, second paragraph arguments do not place this case in condition for allowance, Applicant retains the right to restore all canceled claims to place the claims back into their original form and to argue the impropriety of the current rejections.

In view of the foregoing amendments and remarks, it is respectfully submitted that claims 1 to 7, 9 to 10 13 to 36 and 39 to 42 are allowable. Reconsideration and allowance are requested.

Should the Examiner believe that any further action is necessary in order to place this application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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